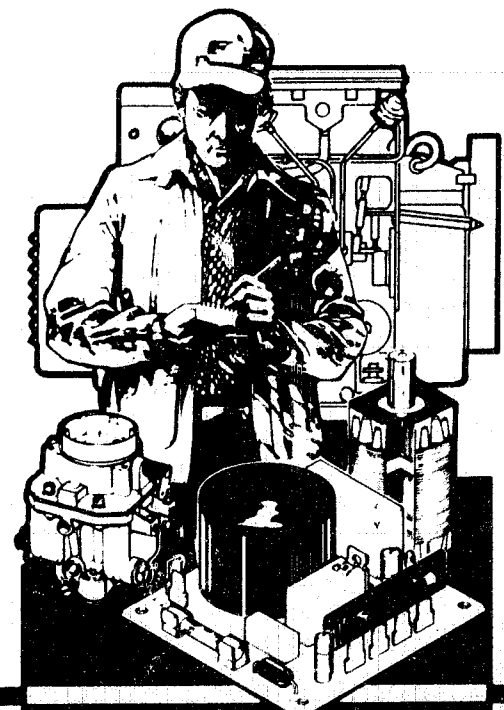

Onan

Parts Manual

ES

GenSet

Mobile Electric Generating Set



Onan Service Parts

928-0227
2-93 (Spec B-E)
Replaces 2-92 (Spec C-D)
Printed in U.S.A.

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Introduction

This manual applies to the ES Mobile Generator Sets as listed in the Generator Set Data Table. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Parts illustrations are typical. Unless otherwise mentioned in the description, parts are interchangeable between models. Throughout this manual left and right sides are determined by facing the engine end (front) of the set.

Engine parts that have been modified or added by Onan are identified in this manual. All other engine replacement parts must be ordered from the engine manufacturer by referring to the engine manufacturer's nameplate and supplying all available information. Contact your nearest engine parts dealer for assistance in ordering replacement parts.

Generator Set Data Table

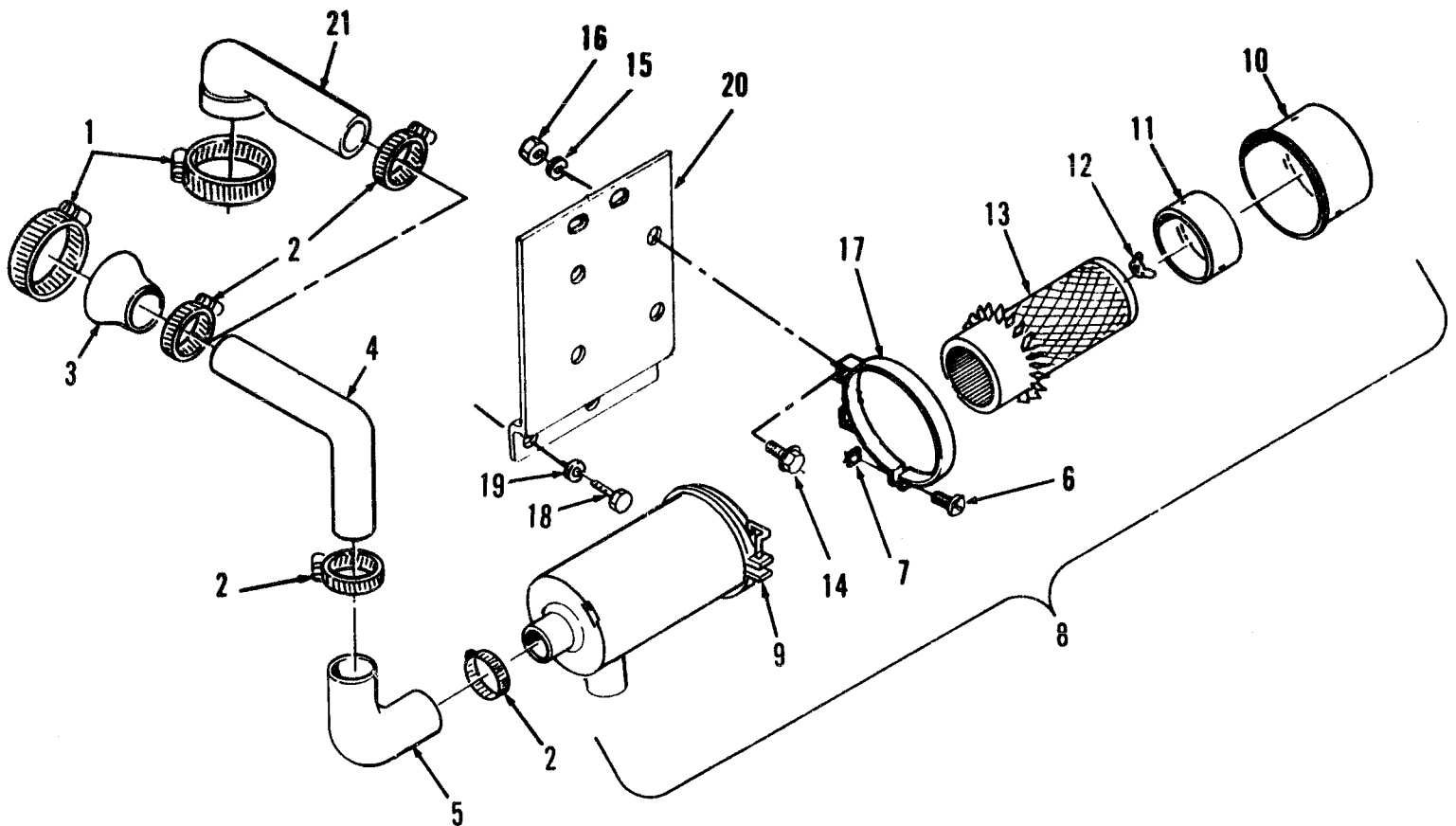
MODEL AND SPECIFICATION	ELECTRICAL DATA					FUEL
	WATTS	VOLTS	HERTZ	WIRE	PHASE	USED
20.0 ES-B/28981*	20,000	120/240	60	3	1	LPG
20.0 ES-B/29381*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30422*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30455*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30491*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30575*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30611*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30612*	20,000	120/240	60	3	1	GASO
20.0 ES-B/36287*	20,000	120/240	60	3	1	LPG
20.0 ES-B/38762*	20,000	120/240	60	3	1	LPG

* - The diagonal line (/) in the model and specification number separates generator set characteristics from the specification number and letter. The specification number denotes customer requested options or deviations from a standard (1A, 1B, etc.) non-mobile ES model. The specification letter advances (A to B, B to C, etc.) with major manufacturing changes. The letter "B" before the diagonal line is now used in the model to indicate the voltage code and replaces the corresponding number and letter designation of "3R" used on earlier models.

SPECIFICATION LETTER ADVANCE HISTORY

B to C	Alternator
C to D	Alternator
D to E	Starter

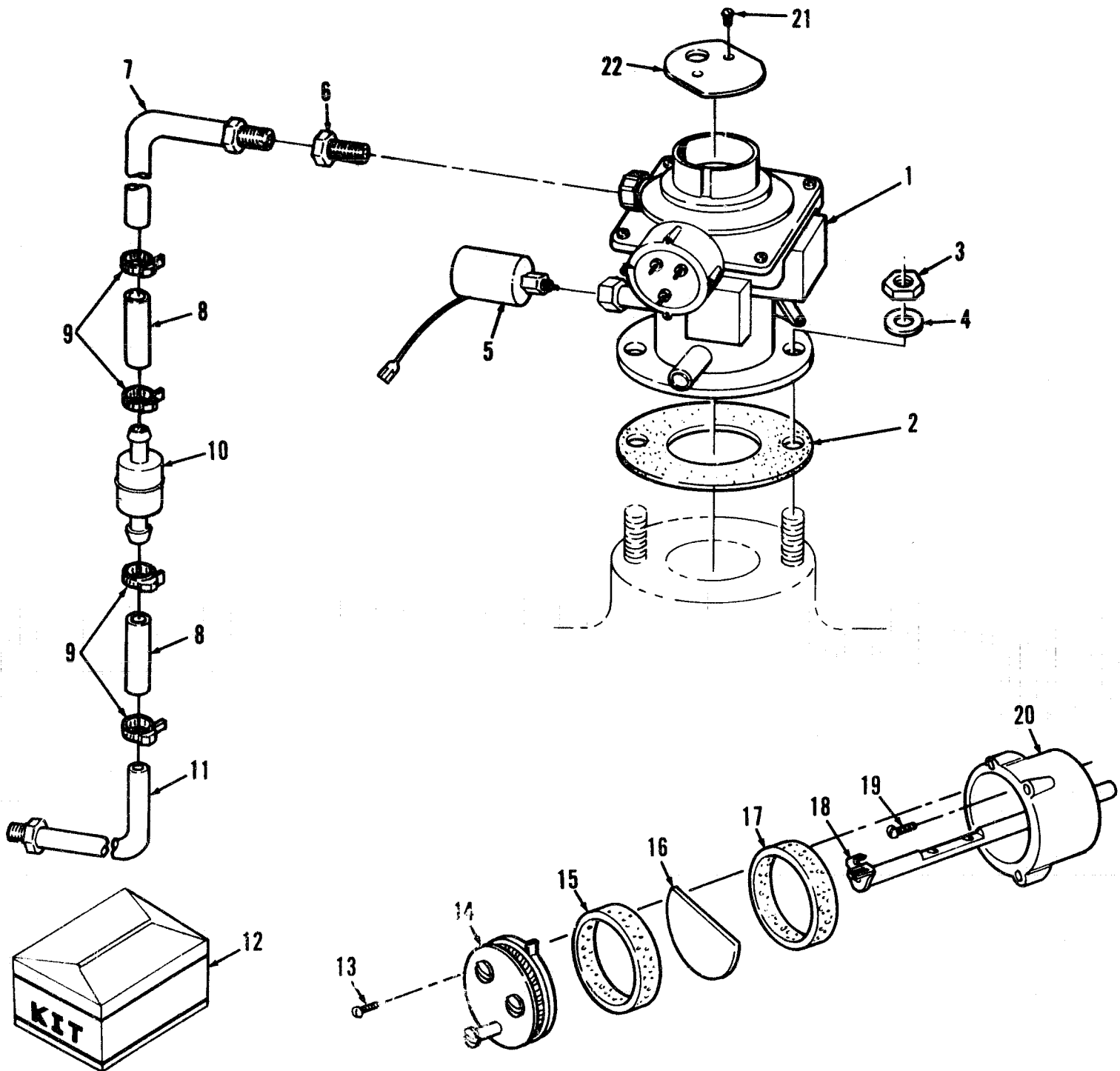
Air Cleaner



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0465	1	Clamp	11	140-1439	1	*Baffle
2	503-0365	3	Clamp	12	140-1436	1	*Nut, Wing
3	503-1074	1	Hose, Reducer - Used With LPG Carburetor	13	140-0765	1	*Element
4			Tube, Air Inlet	14	800-0026	4	Screw, Cap - Hex Head (5/16-18 x 3/4")
	140-2124	1	Used with LPG Carburetor	15	850-0046	4	Washer, Lock - Spring (5/16")
	140-2190	1	Used with Gasoline Carburetor	16	862-0015	4	Nut, Hex (5/16-18)
5	503-0419	1	Elbow, Hose	17	140-0722	2	Band, Mounting
6	812-0153	2	Screw, Machine - Round Head (1/4-20 x 1")	18	800-2085	2	Screw, Cap - Hex Head (M12 x 20MM)
7	861-0011	2	Nut, Square (1/4-20)	19	850-2010	2	Washer, Lock - Spring (M10)
8	140-0721	1	Cleaner Assembly, Air (Includes Parts Marked *)	20	140-1756	1	Bracket, Mounting
9	140-1437	1	*Clamp	21	140-1283	1	Elbow, Air Inlet - Used With Gasoline Carburetor
10	140-1438	1	*Cup				

* - Parts Included in 140-0721 Air Cleaner Assembly.

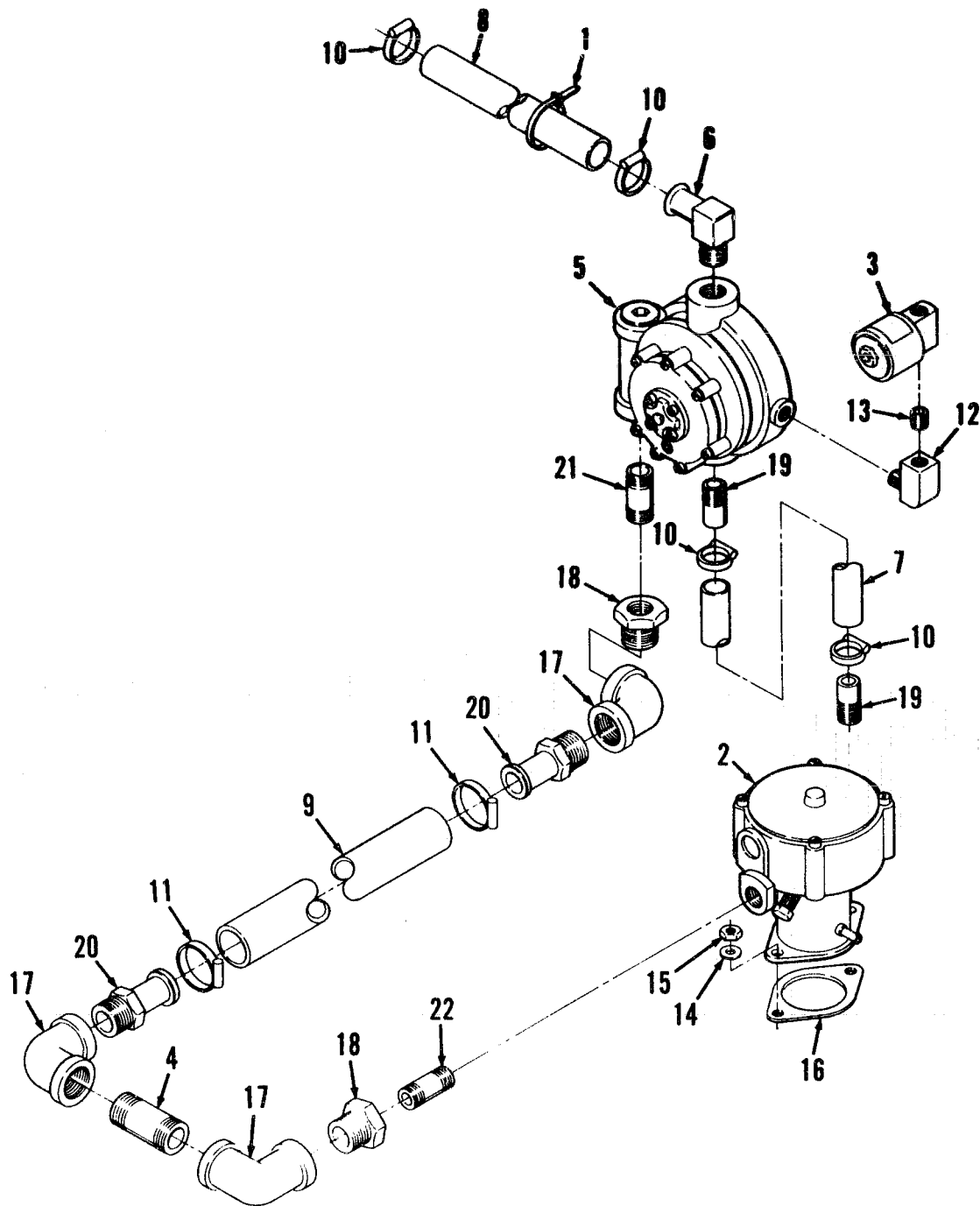
Fuel System (Gasoline)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	141-0953	1	Carburetor - Gasoline (Includes Fuel Solenoid and Choke Plate)
2	145-0120	1	Gasket, Mounting - Lead
3	860-2008	2	Nut, Hex (M8)
4	526-2100	2	Washer, Flat (M8)
5	141-0951	1	Solenoid (K1)
6	502-0018	1	Connector, Inverted Male
7	149-1775	1	Line, Fuel - Upper
8	503-0883	2	Hose, Fuel (5/16" ID x 2")
9	503-0685	4	Clamp
10	149-1774	1	Filter, Fuel
11	149-1776	1	Line, Fuel - Lower
13	813-0096	3	Screw, Machine - Round Head (#10-32 x 1/4")

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
14	141-0911	1	Cover, Choke
15	141-0909	1	Insulator, Cork (1/2" x 4")
16	141-0905	1	Plate, Heat Sink
17	141-0910	1	Insulator, Cork (1/2" x 5-9/16")
18	141-0908	1	Shaft, Choke
19	815-0103	1	Screw, Machine - Fillister Head (#10-24 x 1/2")
20	145-0544	1	Housing, Choke
21	141-0906	2	Screw - With Lockwasher (#5-40)
22	141-0916	1	Plate, Choke

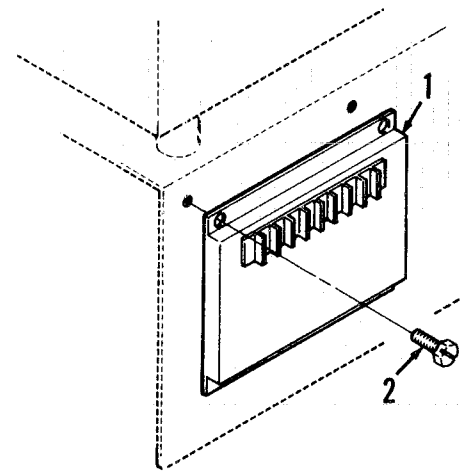
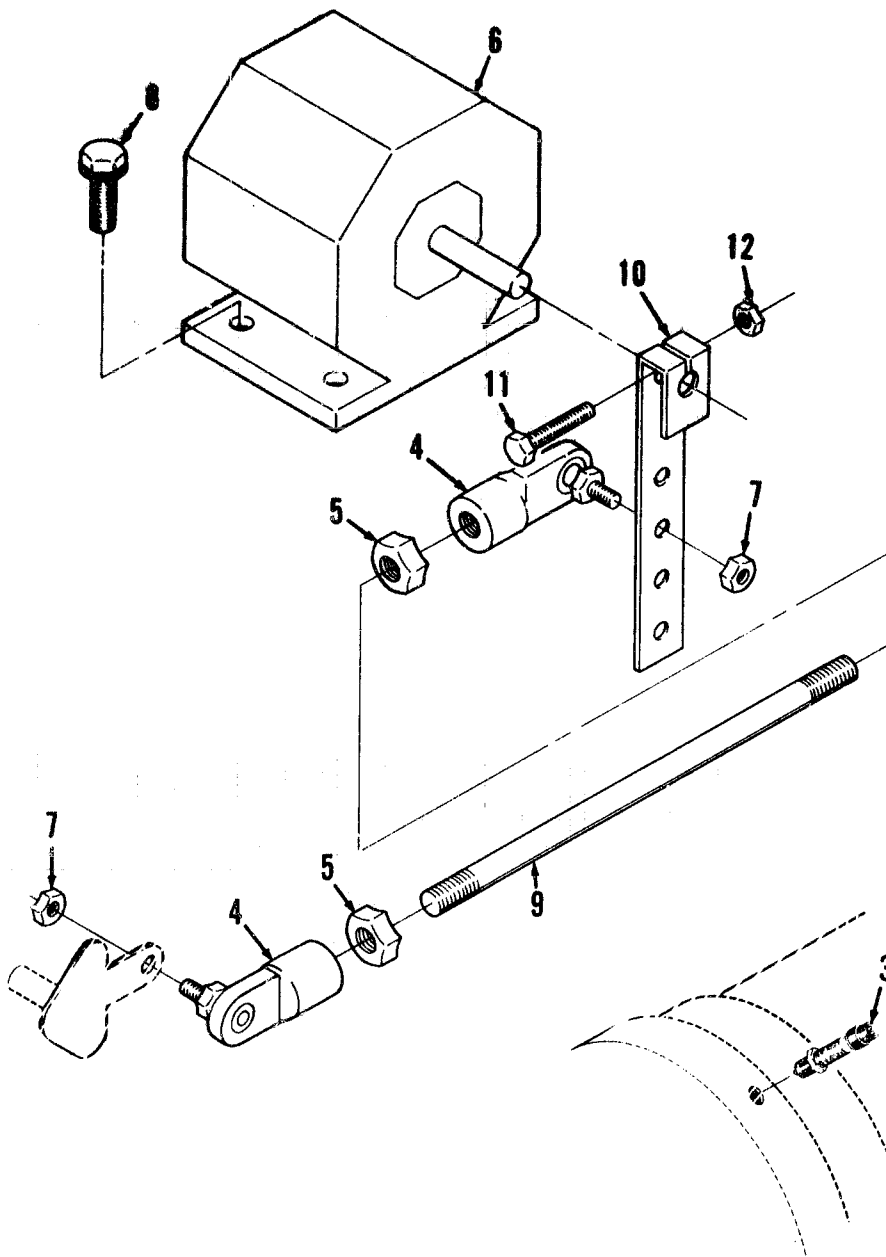
Fuel System (LPG Vapor)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	1	Tie, Cable
2	148-0902	1	Carburetor (LPG Vapor) (For Component Parts Refer to Carburetor Manufacturer)
3	307-0268	1	Valve, Solenoid (K1)
4	505-0085	1	Nipple, Pipe (3/4" x 2")
5	148-0737	1	Regulator
6	502-0587	1	Elbow - 90° (3/8" Pipe to 5/8" ID Hose)
7	503-0352	1	Hose (5/8" ID x 20")
8	503-0146	1	Hose (5/8" ID x 32")
9	503-1573	1	Hose - LPG (1" ID x 13")
10	503-0183	4	Clamp, Hose

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
11	503-0398	2	Clamp, Hose
12	502-0054	1	Elbow - 90° (1/4")
13	502-0047	1	Nipple, Close (1/4")
14	526-2100	2	Washer, Flat (M8)
15	860-2008	2	Nut, Hex (M8)
16	145-0120	1	Gasket - Lead
17	505-0132	3	Elbow - 90° (3/4")
18	505-0021	2	Bushing, Reducer (3/4" to 1/2")
19	505-0135	2	Nipple, Half (3/8" x 1-1/2")
20	502-0971	2	Connector, Hose (3/4")
21	505-0210	1	Nipple, Pipe (1/2" x 2")
22	505-0106	1	Nipple, Pipe (1/2" x 1-1/2")

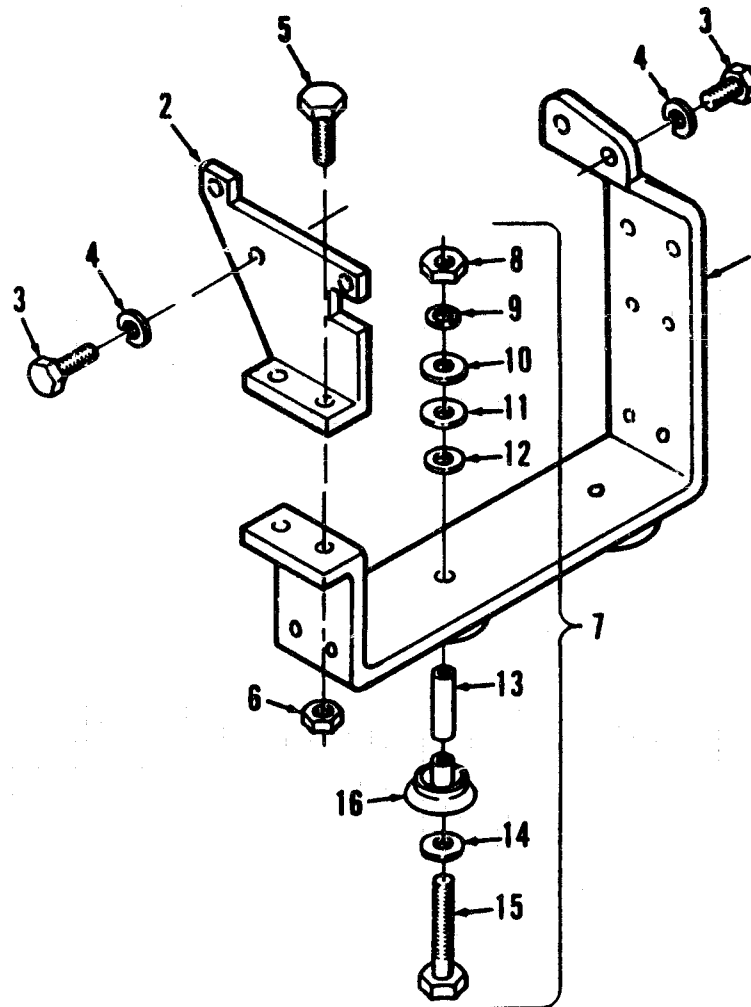
Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	151-0565	1	Control, Governor (A12)
2	815-0652	4	Screw, Slotted - Hex Head (#10-32 x 1/2")
3	150-1406	1	Sensor, Speed - Magnetic (E6)
4	150-0939	2	Joint, Ball
5	870-0053	2	Nut, Hex (#10-32)
6	151-0566	1	Actuator, Governor (A14)
7	870-0131	2	Nut, Hex - With ET (#10-32)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
8	821-0016	4	Screw, Locking - Hex Head Flange (5/16-18 x 3/4")
9	150-1923	1	Rod, Control
10	151-0591	1	Lever, Actuator
11	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1")
12	870-0065	1	Nut, Self-Locking (1/4-20)

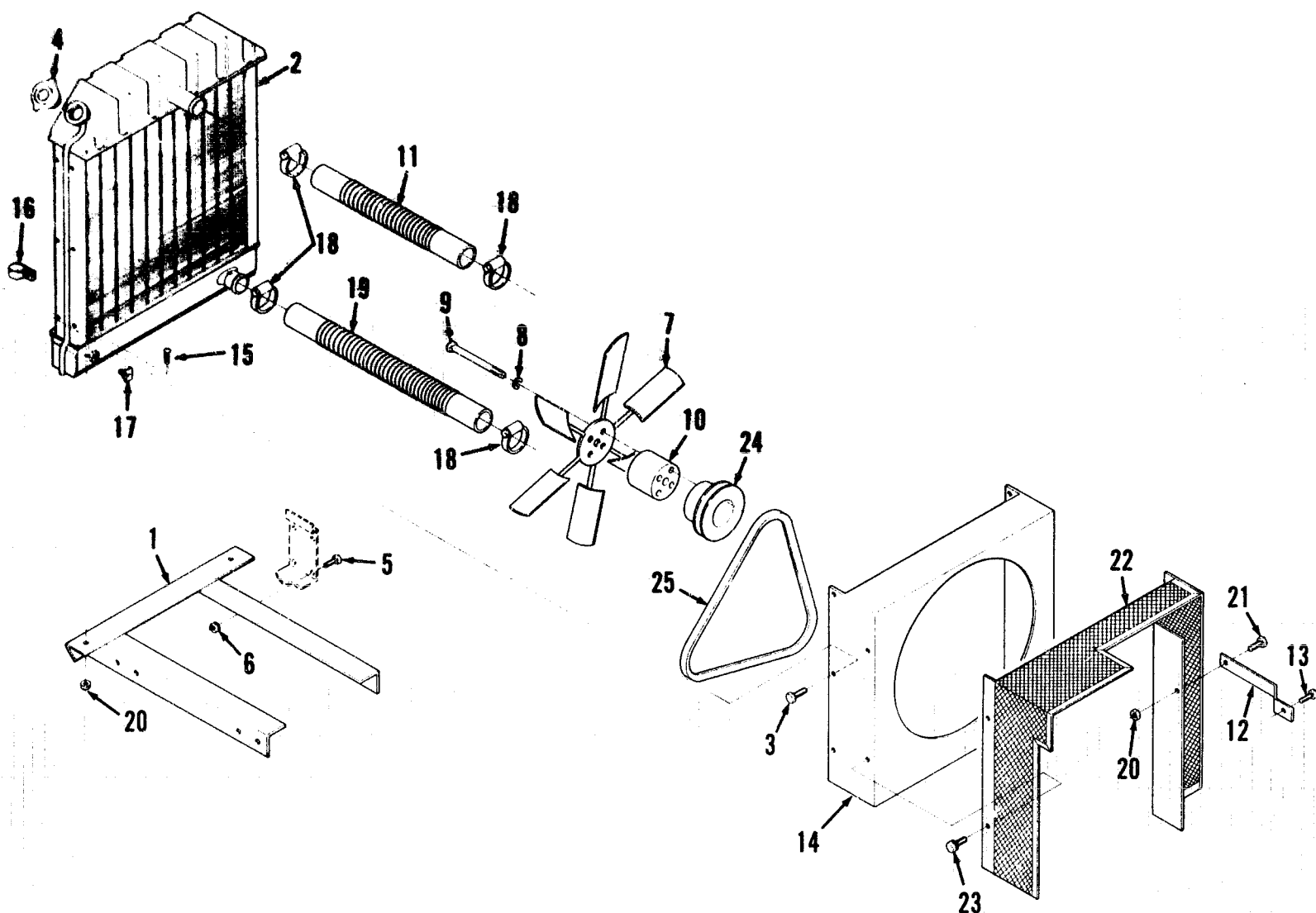
Mounting Hardware



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-1833	1	Bracket, Engine Mount	10	526-0014	4	*Washer, Flat (29/64" ID x 1-1/2" OD x 1/8" Thk)
2	403-3267	1	Bracket, Engine Mount - Upper	11	526-0198	8	*Washer, Flat (5/8" ID x 1-1/2" OD x 1/16" Thk) (Use as required)
3	800-2086	6	Screw, Cap - Hex Head (M10 x 25MM)	12	402-0282	4	*Snubber
4	850-2010	6	Washer, Lock - Spring (M10)	13	402-0290	4	*Bushing, Spacer
5	800-0050	2	Screw, Cap - Hex Head (3/8-16 x 1")	14	526-0195	4	*Washer, Flat (29/64" ID x 3-1/4" OD x 1/8" Thk)
6	870-0281	2	Nut, Self-Locking Hex (3/8-16)	15	800-0082	4	*Screw, Cap - Hex Head (7/16-14 x 3-3/4")
7	402-0327	1	Kit, Mounting Hardware (Hardware Package for 4 Mounts) (Includes Parts Marked *)	16	402-0285	4	Cushion, Vibration Engine End
8	862-0004	4	*Nut, Hex (7/16")		402-0286	4	Generator End
9	850-0055	4	*Washer, Lock - Spring (7/16")				

* - Parts Included in 402-0327 Mounting Hardware Kit

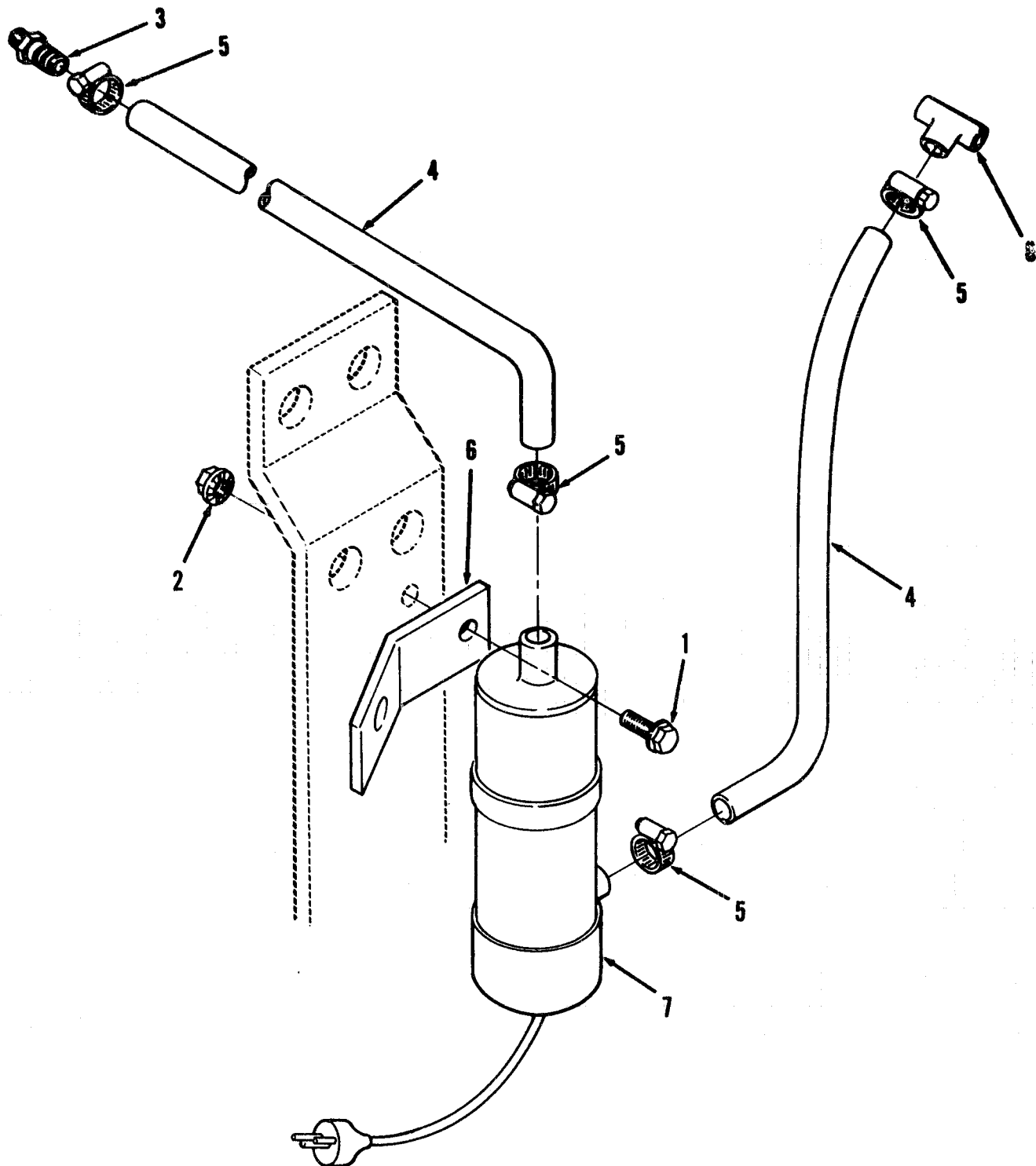
Radiator



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-3025	1	Support, Radiator
2	130-3027	1	Radiator
3	815-0181	6	Screw, Hex Head - Thread Cutting With ET (#10-32 x 1/2")
4	130-1788	1	Cap, Pressure
5	800-0069	4	Screw, Cap - Hex Head (7/16-14 x 3/4")
6	870-0437	4	Nut, Locking Head - Flange (7/16-14)
7	130-3079	1	Fan
8	850-0045	4	Washer, Lock - Spring (5/16")
9	800-2072	4	Screw, Cap - Hex Head (M8 x 100MM)
10	130-2253	1	Spacer, Fan
11	503-1058	1	Hose, Radiator - Upper (15-1/2")
12	130-3024	1	Brace, Radiator

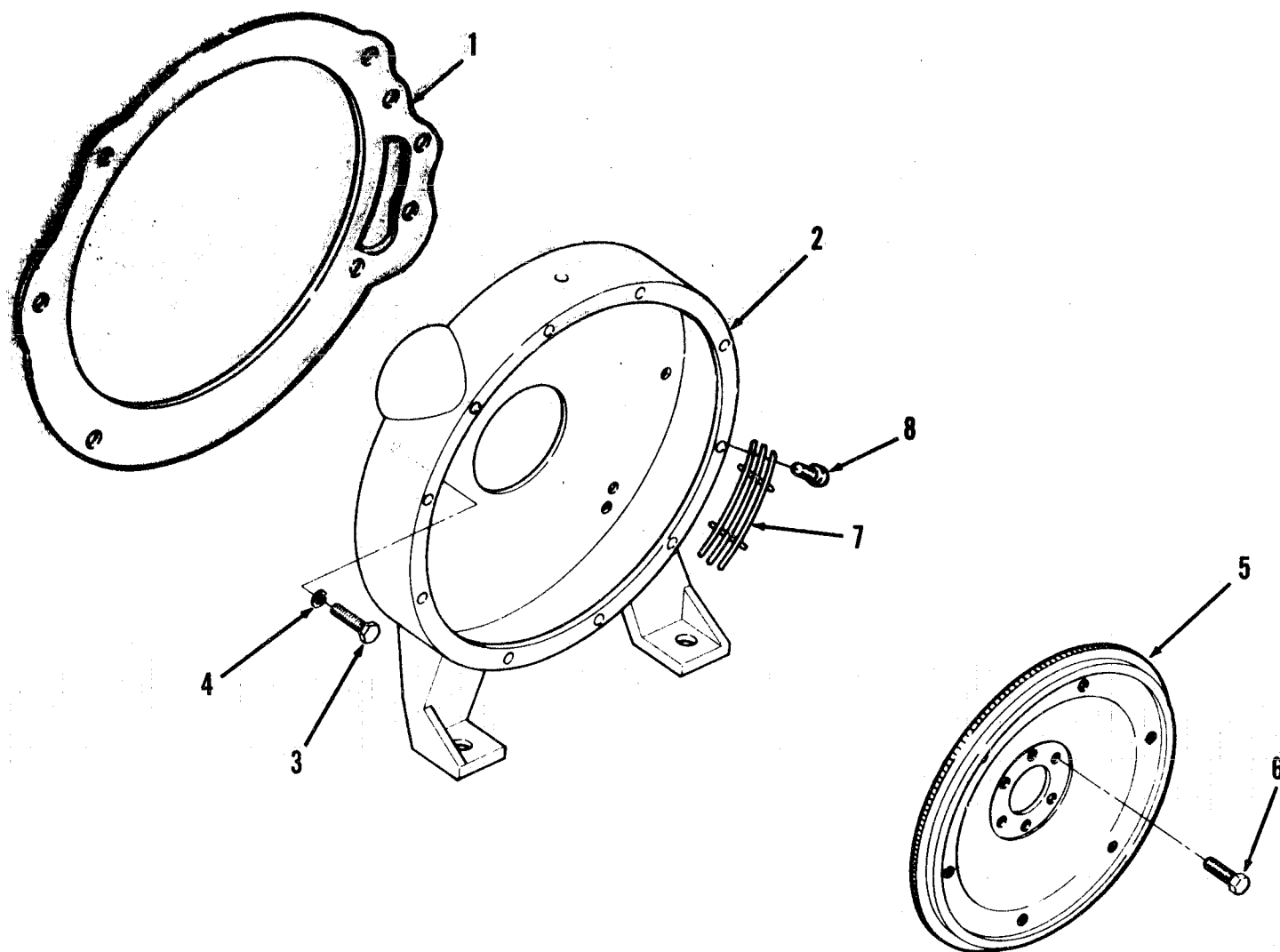
REF NO.	PART NO.	QTY USED	PART DESCRIPTION
13	800-2084	1	Screw, Cap - Hex Head (M10 x 16MM)
14	130-1797	1	Shroud, Fan
15	816-0152	2	Bolt, Carriage (3/8-16 x 2")
16	332-0051	2	Clip, Retainer
17	504-0003	1	Cock, Drain
18	503-0429	4	Clamp, Hose
19	503-0869	1	Hose, Radiator - Lower (20")
20	870-0281	3	Nut, Locking Head - Flange (3/8-16)
21	821-0028	1	Screw, Locking - Hex Washer Head (3/8-16 x 1/2")
22	130-1805	1	Guard, Belt
23	821-0014	4	Screw, Locking - Hex Washer Head (5/16-18 x 1/2")
24	512-0154	1	Pulley, Fan
25	511-0112	1	Belt, Fan

Engine Tank Heater



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0018	1	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")	6	130-0755	1	Bracket, Mounting
2	870-0212	1	Nut, Self-Locking - Hex Washer Head (1/4-20)	7	333-0203	1	Heater, Tank - 850 Watt, 115 Volt (Includes Hose Connector, Cord and Mounting Strap)
3	502-0613	1	Connector, Hose	8	502-0870	1	Tee, Hose
4	503-1552-01	2	Hose (5/8" ID x 14")				
5	503-0183	6	Clamp, Hose				

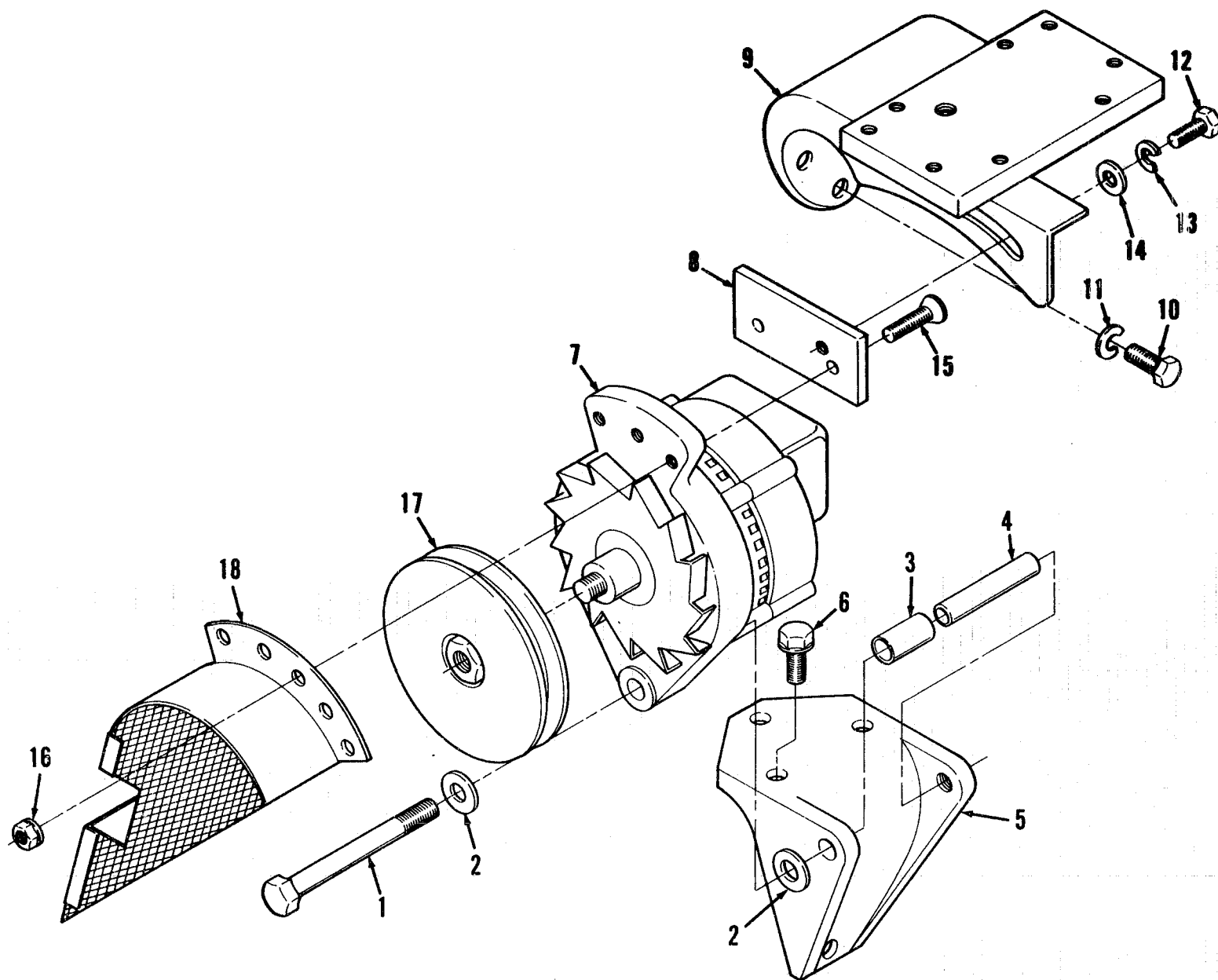
Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-2173	1	Plate, Rear Engine
2	231-0252	1	Adapter, Generator
3			Screw, Cap - Hex Head
	800-2087	1	M10 x 30MM
	800-2089	2	M10 x 40MM
	800-2091	2	M10 x 50MM
4	850-2010	5	Washer, Lock - Spring (M10)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
5	104-1254	1	Flywheel
6	104-1255	6	Screw, Cap - Hex Head (M10 x 45MM)
7	234-0665	1	Grille, Air Outlet
8	803-0032	2	Screw, Socket Head (1/4-20 x 1/4")

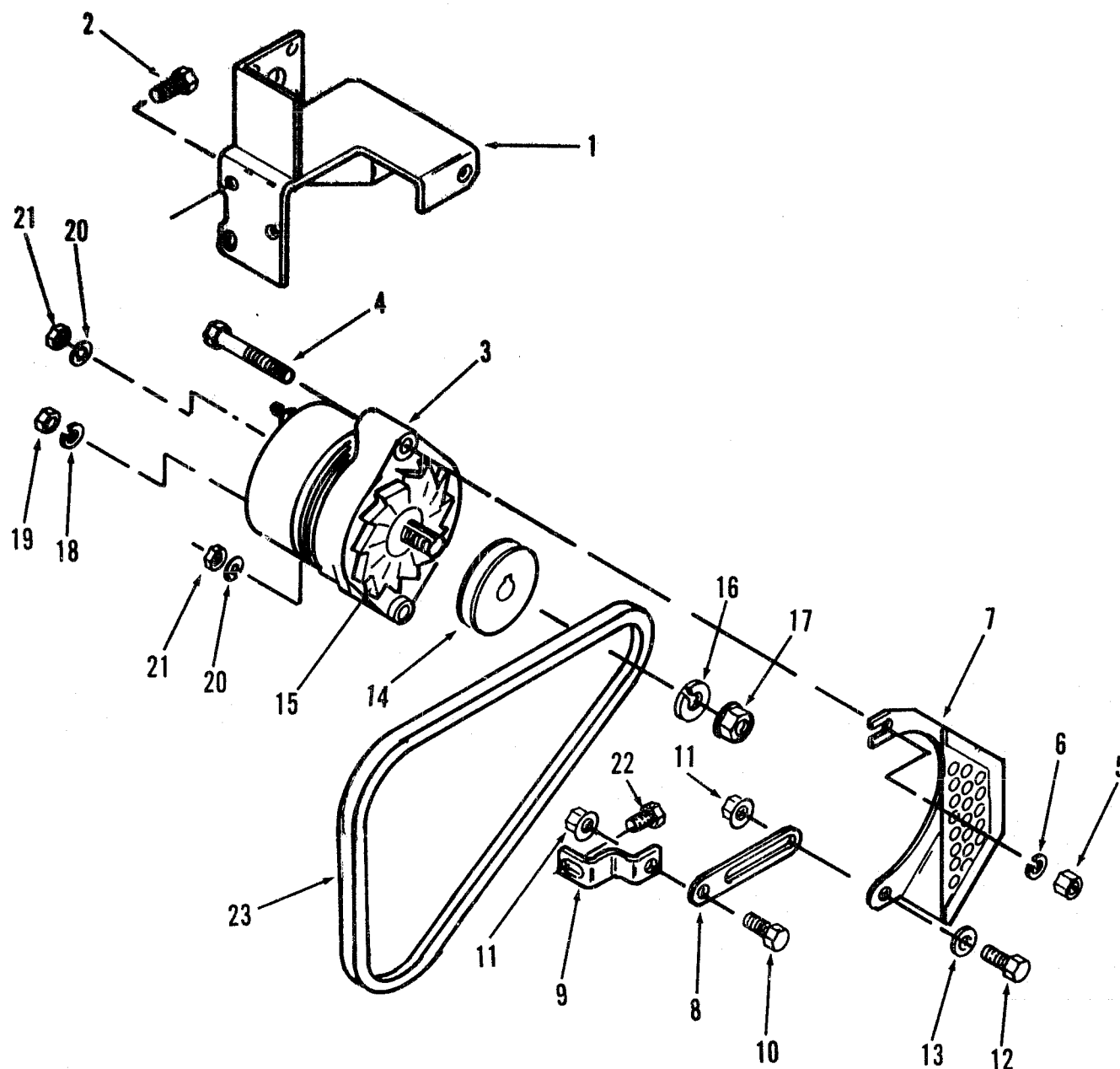
Alternator (Spec B)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1373	1	Screw (7/16-14 x 4-1/4")
2	526-0032	2	Washer, Flat (7/16")
3	191-0571	1	Spacer, Alternator Mounting (1-13/16" Long)
4	191-0716	1	Spacer, Alternator Mounting (2-3/4" Long)
5	191-1369	1	Bracket, Alternator Mounting
6	191-1371	3	Screw, Self-Locking - Hex Head Flange (M10 x 30MM)
7	191-1872	1	Alternator (12 VDC) (G1)
8	191-1375	1	Spacer, Alternator Mounting
9	191-1368	1	Arm, Alternator Adjusting

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
10	130-1808	3	Screw (M8 x 25MM)
11	850-2008	3	Washer, Lock - Spring (M8)
12	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
13	850-0050	1	Washer, Lock - Spring (3/8")
14	526-0030	1	Washer, Flat (3/8")
15	814-2121	2	Screw, Machine - Countersunk Flat Head (M8 x 30MM)
16	870-2055	2	Nut, Locking - Flange (M8)
17	191-1387	1	Pulley, Alternator
18	191-1361	1	Guard, Alternator Belt

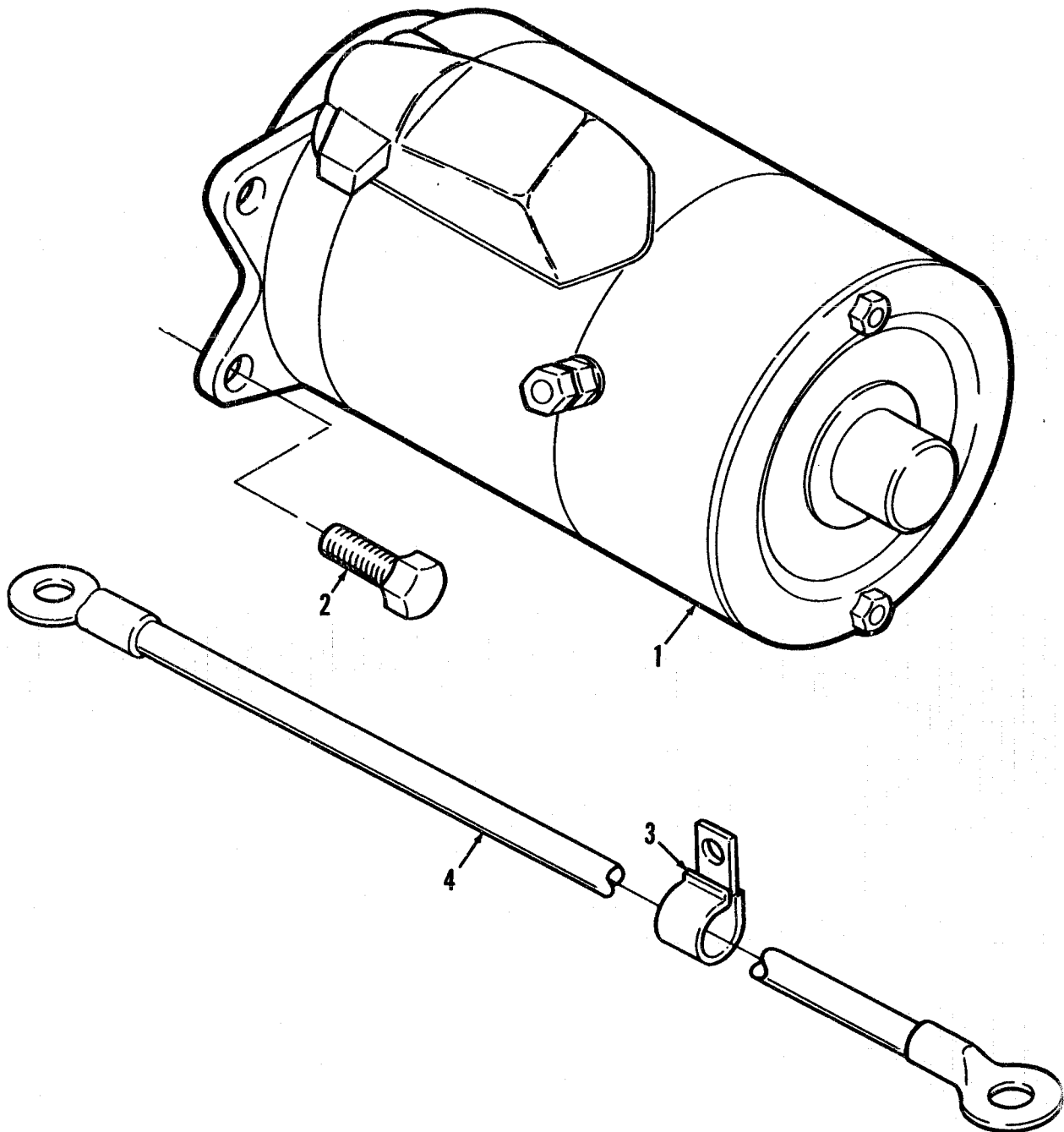
Alternator (Spec C-E)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-2512	1	Bracket
2	130-1808	3	Screw, (M8 x 25mm)
3	191-1983-01	1	Alternator
4	800-2096	1	Screw, Cap - Hex Head (M10 x 1.5 x 75)
5	860-2009	1	Nut (M10 x 1.5)
6	850-2010	1	Lockwasher (M10)
7	191-2086	1	Guard
8	191-2085	1	Strap, Alternator Adjust
9	191-2084	1	Bracket, Adjusting
10	800-2058	2	Screw, Hex Head (M8 x 1.25 x 25)
11	870-2055	2	Nut, Lock Flange (M8 x 1.25)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
12	800-2060	1	Screw, Cap - Hex Head (M8 x 1.25 x 35)
13	526-2106	1	Washer, Flat (M8)
14	191-2032	1	Pulley, Alternator
15	191-1981	1	Fan, Alternator
16	851-0039	1	Washer, Spring
17	870-2161	1	Nut, Hex (M16)
18	850-2008	1	Washer, Lock (M8)
19	860-2008	1	Nut, Hex (M5)
20	850-2005	2	Washer, Lock (M5)
21	860-2006	2	Nut, Hex (M5)
22	800-2085	1	Screw, (M10 x 1.5 x 20)
23	512-0154	1	Belt Fan

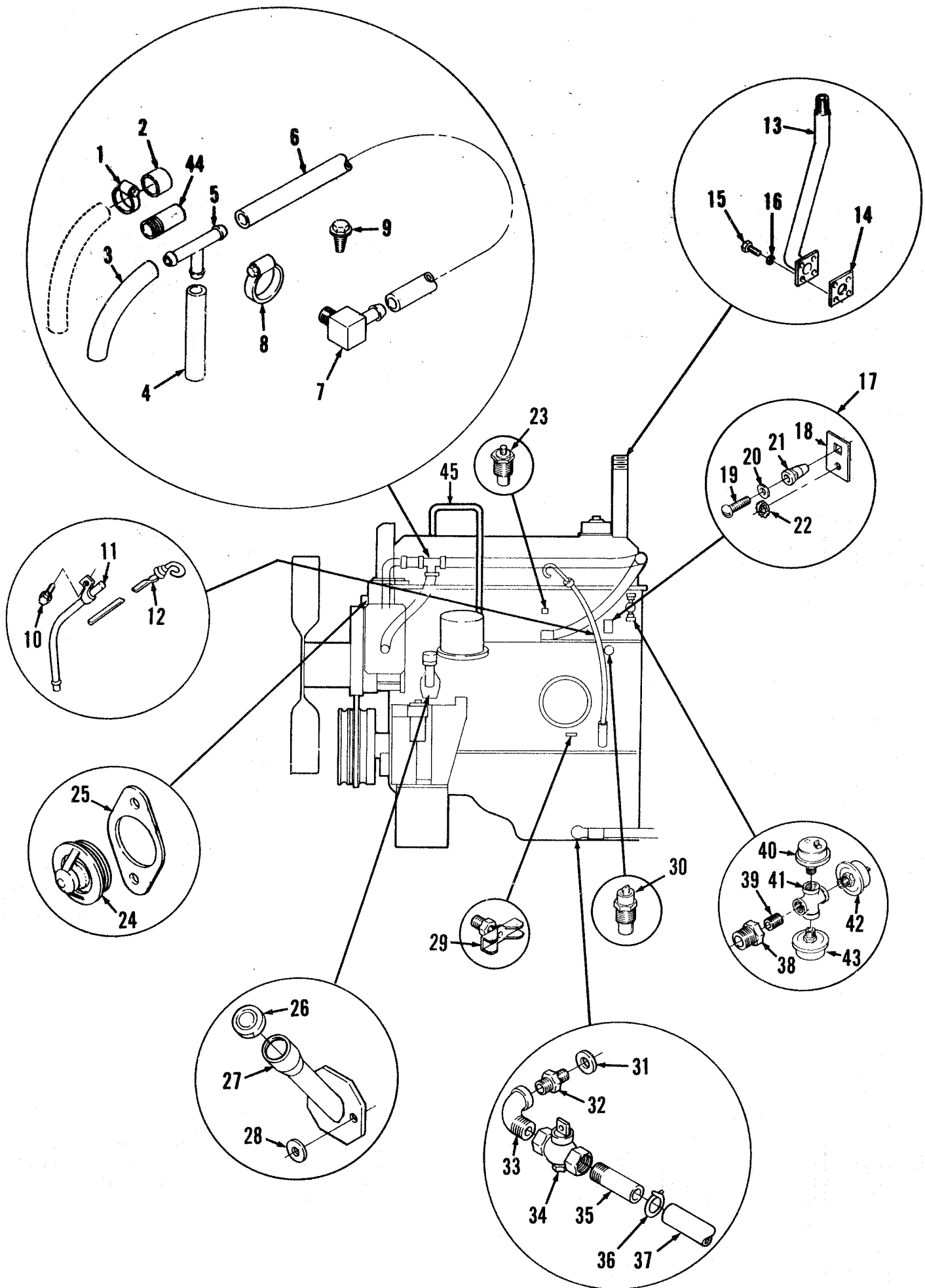
Starter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1370	1	Starter (12 VDC) (B1)
	191-2115	1	Spec B-D
	191-2115	1	Spec E
2	191-1374	3	Screw, Cap - Hex Head (M10 x 25MM)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
3	332-2634	1	Clamp, "J"
4	226-3462-01	1	Lead (38") Starter to Relay
	226-3462-02	1	Spec B-D
		1	Spec E

Miscellaneous Engine Parts



Miscellaneous Engine Parts

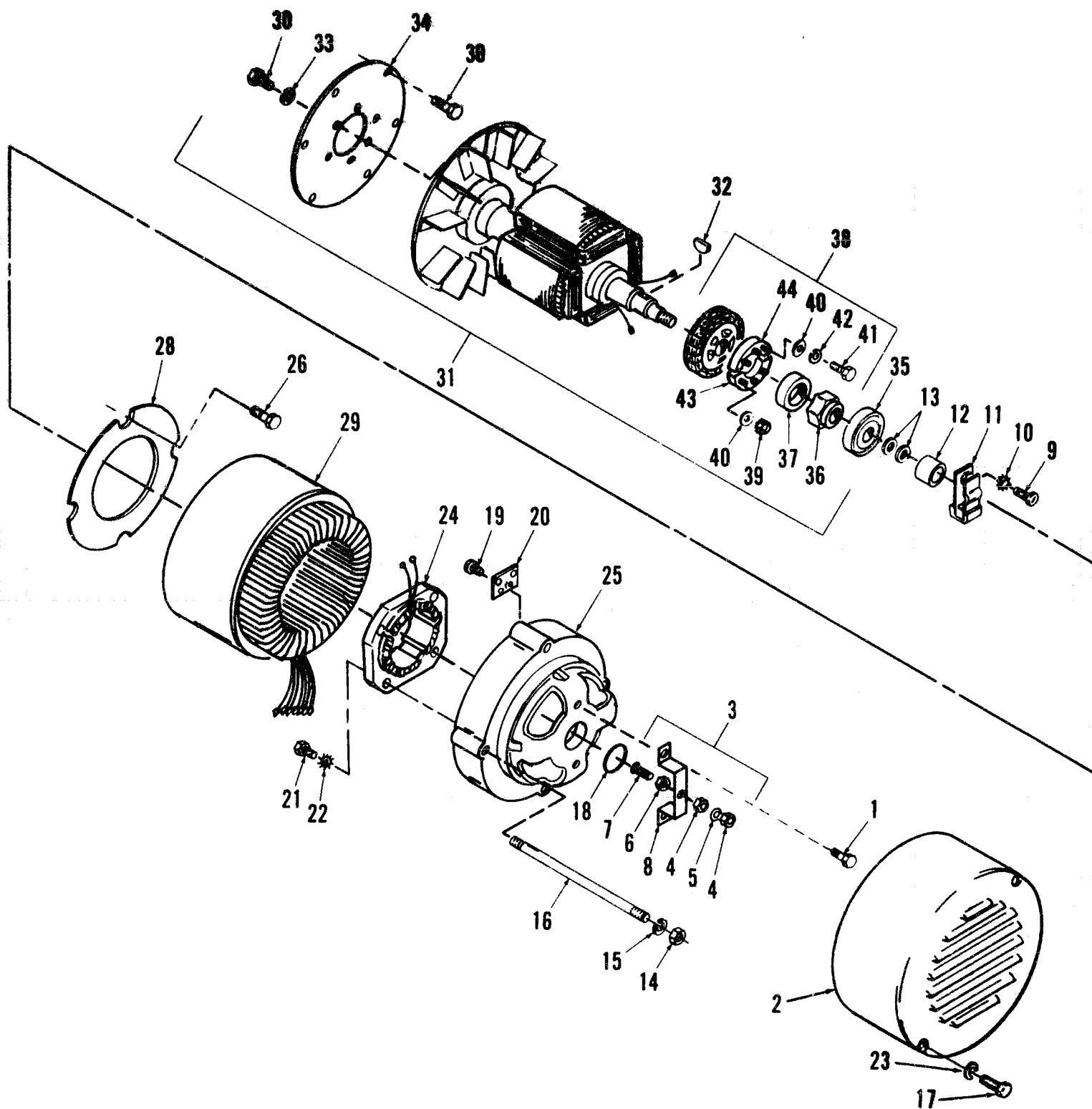
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0183	1	*Clamp, Hose	26	123-1787	1	*Cap, Oil Fill
2	132-0222	1	*Cap, Water Outlet Tube	27	123-1786	1	*Tube, Oil Fill
3	503-1250	1	#Hose, Water Bypass (5/8" ID)	28	526-0122	2	*Washer, Flat (5/16")
4	503-1251	1	#Hose, Water Bypass (5/8" ID)	29	504-0133	1	Petcock (Mounted on Left Side of Engine)
5	502-0868	1	*Tee (3/8" x 5/8" x 5/8")	30	309-0437	1	Switch, Thermostat (S1)
6	503-1062	1	*Hose - Intake Manifold to Water Pump (3/8" ID)	31	102-1281	1	Gasket, Oil Drain
7	502-0869	1	*Connector (3/8")	32	102-1054	1	Adapter, Oil Drain
8	503-1061	8	*Clamp, Hose	33	505-0050	1	Elbow, Oil Drain (90° x 1/2")
9	503-1064	1	Screw, Self Tapping (#8-18 x 1/2")	34	504-0011	1	Valve, Shutoff
10	123-1535	1	Screw, Self-Locking - Hex Head Flange (M8 x 19MM)	35	505-0106	1	Nipple, Half (1/2" x 1-1/2")
11	123-1534	1	Tube, Oil Level	36	503-0197	1	Clamp, Hose
12	123-1533	1	Indicator, Oil Level	37	503-0808	1	Hose, Drain (14")
13	155-2076	1	Pipe, Exhaust	38	505-0007	1	Bushing, Reducer (1/4" to 1/8")
14	155-2073	1	Gasket, Exhaust Pipe	39	505-0098	1	Nipple, Short (1/8" x 3/4")
15	800-2085	4	Screw, Cap - Hex Head (M10 x 20MM)	40	309-0272	1	Switch, Low Oil Pressure (Closes at 20 lbs. Descending) (S2)
16	850-2010	4	Washer, Lock - Spring (M10)	41	505-0763	1	Crosspipe (1/8")
17	332-1292	1	Bracket Assembly, Terminal (#26) (Includes Parts Marked +)	42	309-0104	1	Switch, Low Oil Pressure (Closes at 5 lbs. Descending) (S2)
18	332-1281	1	+Bracket, Terminal	43	193-0244	1	Sender, Oil Pressure (E1)
19	809-0035	1	+Screw, Sheet Metal - Round Head (#8 x 3/4")	44	505-0135	1	*Nipple, Half (3/8" x 1-1/2")
20	508-0015	1	+Washer, Fiber	45	503-1262	1	Hose (5/16" ID x 38")
21	870-0196	1	+Nut, Insulation				
22	856-0008	1	Washer, Lock - EIT (5/16")				
23	193-0318	1	Sender, Water Temperature (E2)				
24	309-0509	1	Thermostat (170°)				
25	130-2307	1	Gasket, Water Outlet Elbow				

* - Parts used with LPG vapor fuel system.

- Parts used with gasoline fuel system.

+ - Parts Included in 332-1292 Terminal Bracket Assembly.

Generator

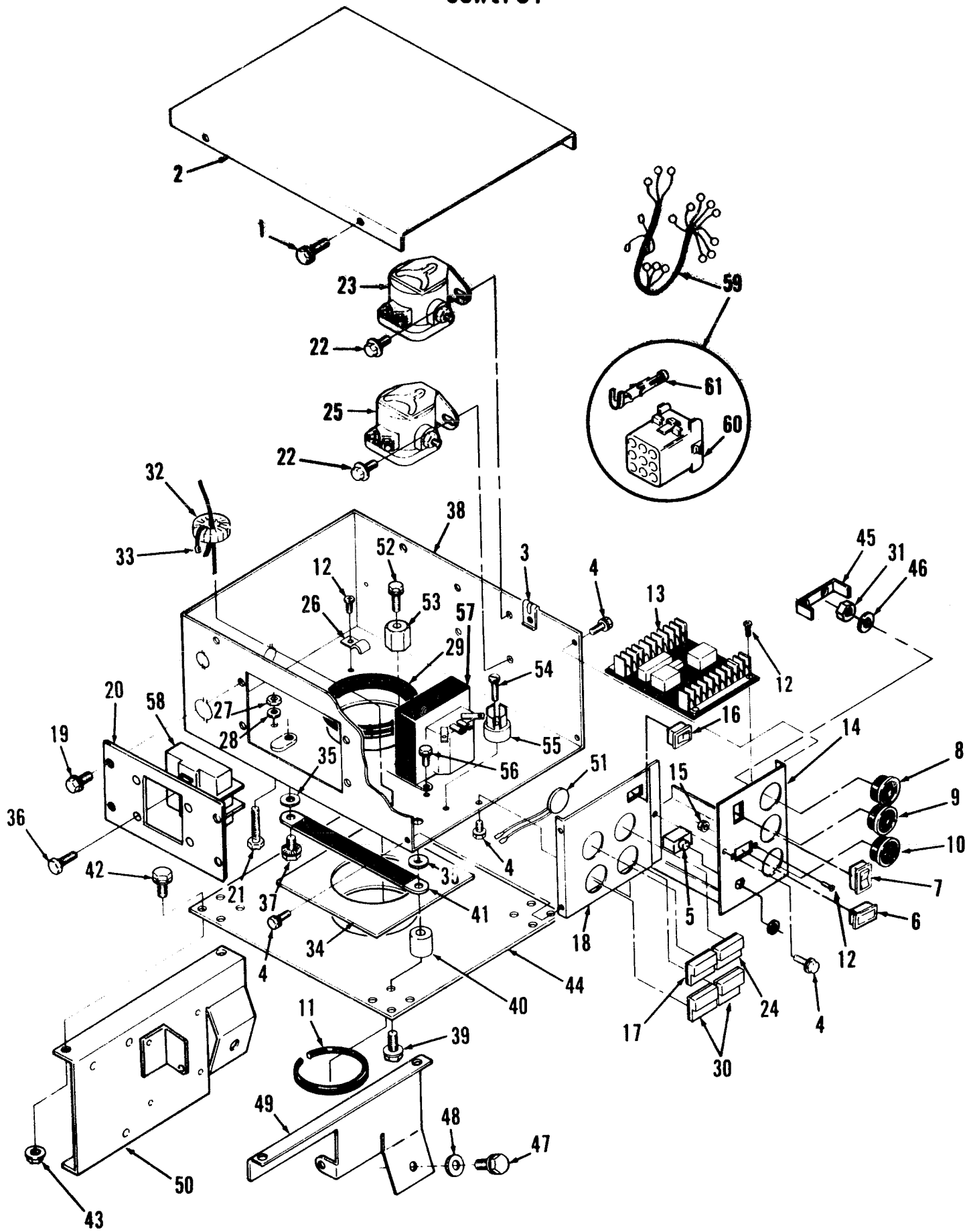


Generator

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")	22	850-0040	4	Washer, Lock - Spring (1/4")
2	234-0498	1	Cover, End Bell	23	850-0040	2	Washer, Lock - Spring (1/4")
3	150-1446	1	Bracket and Point Assembly (Includes Parts Marked *)	24	220-2009	1	Stator, Exciter
4	862-0001	2	*Nut, Hex (1/4-20)	25	211-0256	1	Bell, End
5	853-0013	1	*Washer, Lock - ET (1/4")	26	821-0010	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
6	870-0250	1	*Nut, Insulating	28	234-0519	1	Baffle, Air
7	150-0723	1	*Point, Contact	29	220-3794	1	Stator, Generator
8	150-1445	1	*Bracket, Mounting	30	805-0015	12	Bolt, Place (3/8-16 x 3/4")
9	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	31	201-2937	1	Rotor Assembly, Generator (Includes Parts Marked #)
10	856-0010	1	Washer, Lock - EIT (3/8")	32	515-0094	1	#Key - Excitor Rotor
11	150-0717	1	Switch, Overspeed (S3)	33	526-1030	6	#Washer, Flat (3/8")
12	150-1735	1	Spacer, Overspeed Switch	34	232-2826	1	#Disk, Drive
13	526-0029	2	Washer, Flat (3/8") (Quantity as required)	35	510-0112	1	#Bearing, Ball
14	862-0011	4	Nut, Hex (3/8-16)	36	870-0284	1	#Nut, Self-Locking - Hex (1-1/8-12)
15	850-0050	4	Washer, Lock - Spring (3/8")	37	232-2398	1	#Spacer, Bearing
16	520-0799	4	Stud (3/8-16 x 11-3/8")	38	201-2151	1	#Rotor Assembly, Excitor (Includes Parts Marked +)
17	812-0167	2	Screw, Machine - Round Head (1/4-20 x 6")	39	870-0131	8	+Nut, Self-Locking - Hex with ET Lockwasher (#10-32)
18	509-0094	1	Seal, "O" Ring	40	526-0008	12	+Washer, Flat (#10)
19	815-0194	2	Screw, Tapping - Hex Head With ET Lockwasher (#10-32 x 3/8")	41	813-0100	4	+Screw, Machine - Round Head (#10-32 x 1/2")
20	232-2418	1	Board, Connection	42	853-0008	4	+Washer, Lock - ET (#10)
21	802-0038	4	Screw, Cap - Socket Head (1/4-20 x 1-1/2")	43	358-0070	1	+Rectifier Assembly - Negative
				44	358-0069	1	+Rectifier Assembly - Positive

- * - Parts Included in 150-1446 Bracket and Point Assembly.
- # - Parts Included in 201-2937 Generator Rotor Assembly.
- + - Parts Included in 201-2151 Excitor Rotor Assembly.

Control



Control

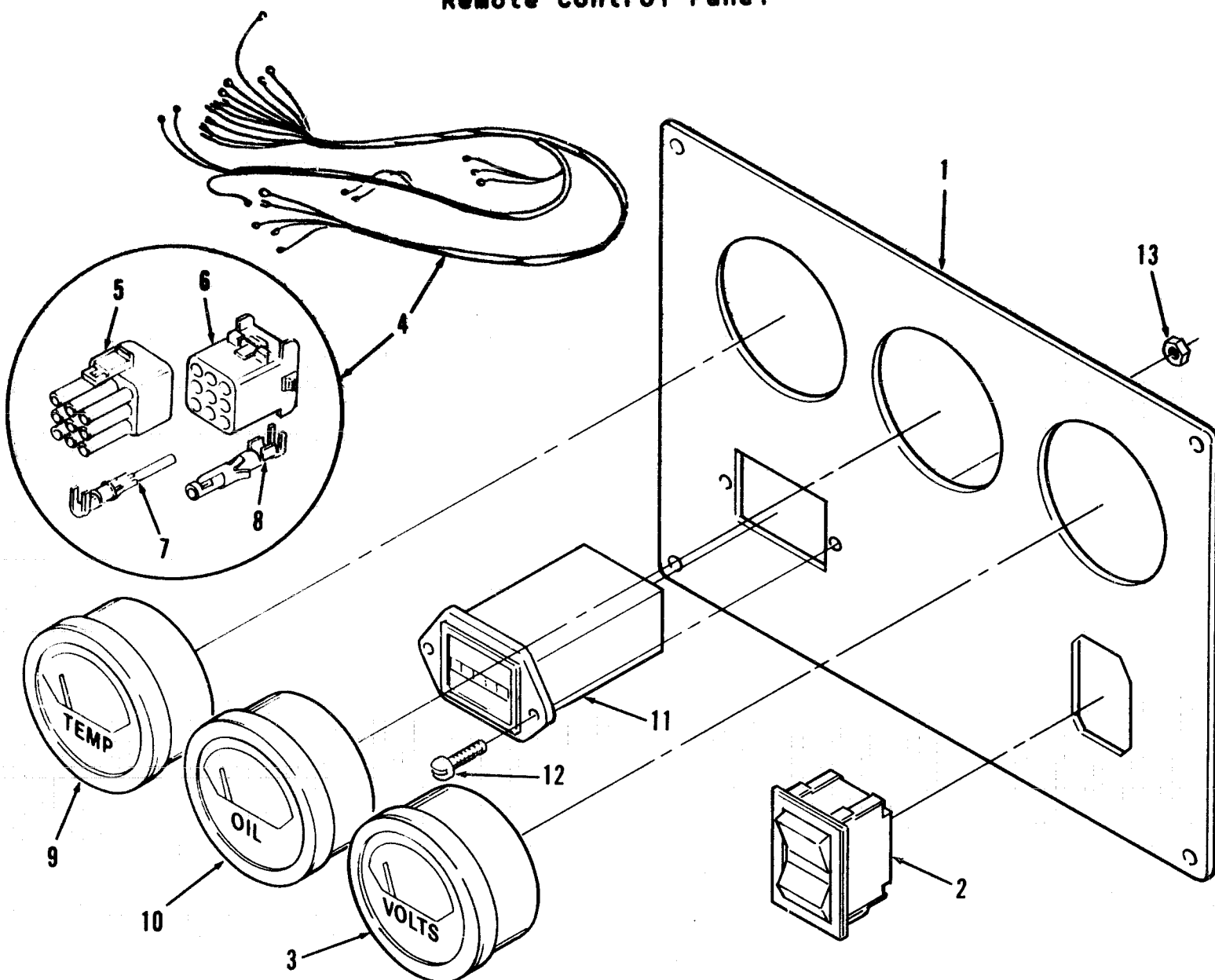
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0005	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 1/2")	38	301-7807	1	Box, Control
2	301-7983	1	Cover, Control	39	821-0014	4	Screw, Locking Head - Flange (5/16-18 x 1/2")
3	870-0398	4	Nut, Retaining (#10-32)	40	402-0527	4	Dampener, Vibration
4	821-0004	5	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")	41	337-0049	1	Strap, Ground - Control
5	320-1139	1	Breaker, Circuit (CB12)	42	821-0010	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
6	302-0885	1	Meter, Time Totalizing (M11)	43	870-0212	4	Nut, Self-Locking - Hex Washer Head (1/4-20)
7	308-0739	1	Switch, Rocker (S11)	44	301-7685	1	Plate, Mounting - Control
8	193-0352	1	#Gauge, Oil Pressure (M12)	45	302-0270	3	#Clamp, Gauge Mounting
9	193-0351	1	#Gauge, Coolant Temperature (M13)	46	526-0049	18	#Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thick)
10	302-1641	1	#Voltmeter - DC (M14)	47	815-0236	2	Screw, Tapping - Hex Head (5/16-18 x 5/8")
11	508-1043	1	Edging (19-1/2")	48	856-1008	2	Washer, Lock - EIT (5/16")
12	815-0544	7	Screw, Machine - Round Head, Cross Recessed, with IT Lockwasher (#6-32 x 1/2")	49	301-7699	1	Bracket, Mounting - Left Hand
13	300-2604	1	Monitor, Engine (A11)	50	301-9784	1	Bracket, Mounting - Right Hand
14	319-0087	1	Face, Control - With Tray Generator Sets with Remote Mounted DC Gauges	51	305-0703	1	Suppressor, Voltage (RV21)
	301-7686	1	# Generator Sets with Control Mounted DC Gauges	52	821-0008	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/16")
15	870-0183	2	Nut, Hex - With ET Lock Washer (#6-32)	53	332-2370	2	Standoff, Insulator (TB1, TB2)
16	320-1140	1	Breaker, Circuit (CB11)	54	815-0346	1	Screw, Machine - Round Head, Brass with ET Lockwasher (#10-32 x 5/8")
17	302-1175	1	*Voltmeter - AC (M21)	55	305-0696	1	Bridge, Rectifier (CR21)
18	301-7951	1	Face, Control Controls Without AC Meters	56	821-0004	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")
	301-9790	1	* Controls With AC Meters	57	315-0651	1	Transformer, Voltage Regulating (T21)
19	821-0004	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")	58	320-1207	1	Breaker, Circuit (CB22)
20	301-7684	1	Plate, Cover - Access Controls without AC Breaker	59	338-2048-01	1	100 Amp, 240 Volt AC Harness, Wiring
	301-7944	1	Controls with AC Breaker		338-2048-02	1	* Rectifier Bridge and AC Voltmeter to Exciter Field, Current Transformer, Frequency Meter and Insulator Standoffs
21	821-0012	2	Screw, Cap - Hex Washer Head (1/4-20 x 1-1/4") Ground Stud		338-1675-04	1	Rectifier Bridge to Exciter Field and Current Transformer Control Box
22	821-0008	4	Screw, Cap - Hex Washer Head (1/4-20 x 5/16")		338-1675-06	1	# Generator Sets with Control Mounted DC Gauges
23	307-1166	1	Relay, Solenoid - Start (K11)		338-2184	1	Generator Sets with Remote Mounted DC Gauges
24	302-1720	1	*Meter, Frequency - AC (M22)		338-2757	1	Remote Control Connection (20") (Includes Parts Marked +)
25	307-1031	1	Relay, Solenoid - Pilot (K13)		338-2798	1	Engine to Control (Spec B)
26	518-0437	1	Clip, Holddown		338-2047	1	Engine to Control (Spec C,D)
27	871-0016	4	Nut, Hex - Brass (1/4-20) Ground Stud		60	1	Engine to Control (Spec E)
28	853-0013	2	Washer, Lock - ET (1/4") Ground Stud		61	1	+Cap, Connector (9 Place) (J1)
29	508-0115	1	Grommet - 2-1/2" Hole			7	+Socket, Female
30	302-1468	2	*Ammeter - AC (M23, M24)				
31	871-0010	9	#Nut, Hex - Brass (#10-32)				
32	302-0076	2	*Transformer, Current (CT21, CT22)				
33	332-0941	2	*Tie, Cable				
34	405-3156	2	Insulation				
35	856-0008	2	Washer, Lock - EIT (5/16")				
36	812-0061	4	Screw, Machine - Round Head (#6-32 x 3/8")				
37	821-0014	1	Screw, Locking Head - Flange (5/16-18 x 1/2")				

- Parts Used on Generator Sets with Control Mounted DC Gauges

* - Parts Used on Controls with AC Meters

+ - Parts Included in 338-2184 Wiring Harness

Remote Control Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-3200	1	Panel Assembly, Remote Control - Complete (Includes Parts Marked +)
1	319-0071	1	+Panel, Control
2	308-0827	1	+Switch, Rocker (S11)
3	302-1641	1	+Voltmeter - DC (M14)
4			Includes Mounting Hardware
	338-2185	1	+ Remote Control Panel (Includes Parts Marked *)
			Remote Control to Generator Set
	338-2321	1	One Foot (Includes Parts Marked #)
	338-2237	1	Fifteen Foot (Includes Parts Marked @)
	338-2238	1	Twenty-Five Foot (Includes Parts Marked @)
5	323-1291	10	+*#Plug, Connector (9 Place) (P1)
6	323-1325	1	@*#Cap, Connector (9 Place) (J1)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	323-1199	7	+*#Pin, Male (Fifteen and twenty-five foot long remote control to generator set wiring harnesses use a quantity of 8)
8	323-1200	7	+@Socket, Female (Fifteen and twenty-five foot long remote control to generator set wiring harnesses use a quantity of 8)
9	193-0319	1	+Gauge, Coolant Temperature (M13) Includes Mounting Hardware
10	193-0320	1	+Gauge, Oil Pressure (M12) Includes Mounting Hardware
11	302-0885	1	+Meter, Time Totalizing (M11)
12	815-0385	2	+Screw, Machine - Round Head (#6-32 x 1/2")
13	870-0183	2	+Nut, Hex - With ET (#6-32)

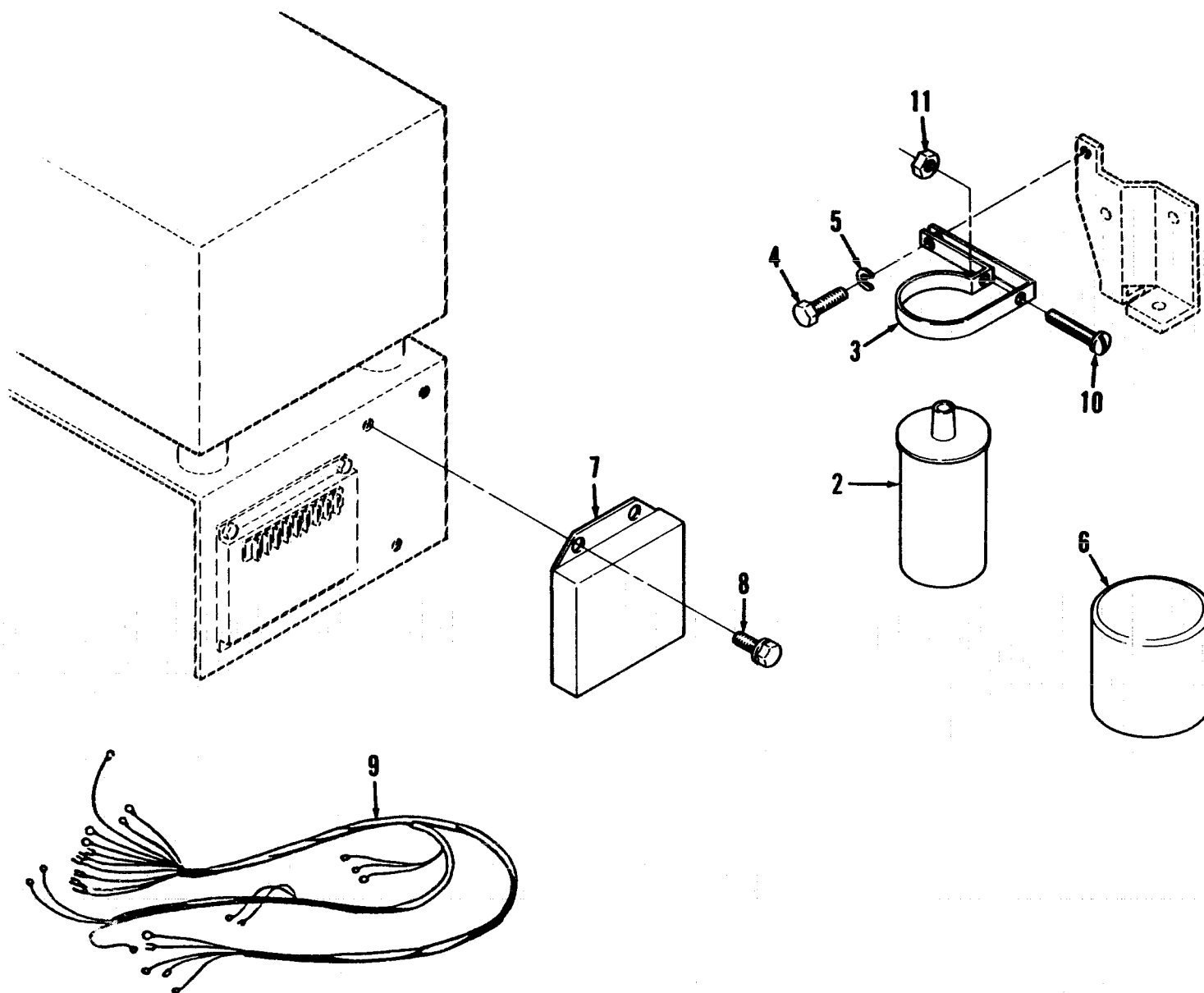
+ - Parts Included in 300-3200 Remote Control Panel Assembly

* - Parts Included in 338-2185 Wiring Harness

- Parts Included in 338-2321 Wiring Harness

@ - Parts Included in 338-2237 and 338-2238 Wiring Harnesses

Ignition



REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	166-0733	1	Suppressor, Ignition Coil (Not Illustrated)
2	166-0730	1	Coil, Ignition (T1)
3	166-0734	1	Strap, Ignition Coil
4	800-2093	1	Screw, Cap - Hex Head (M10 x 60MM)
5	850-2010	1	Washer, Lock - Spring (M10)
6	166-0729	1	Shield, Dust - Distributor

REF NO.	PART NO.	QTY USED	PART DESCRIPTION
7	166-0731	1	Module, Ignition (A13)
8	821-0010	3	Screw, Self-Locking - Hex Head Flange (1/4-20 x 1/2")
9	166-0728	1	Harness, Wiring - Ignition Module
10	166-0735	1	Screw, Machine - Round Head (#10-32 x 1-5/8")
11	166-0736	1	Nut, Hex (#10-32)

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